

WHAT IS CLAIMED IS:

1. A radial self-aligning rolling bearing comprising:
an outer bearing ring; an inner bearing ring radially inward of the outer bearing ring, with the outer ring defining an outer raceway facing the inner ring and the inner ring defining an inner raceway facing the outer raceway;
5 rolling elements, comprising:
a plurality of bearing balls disposed between the rings and arranged around the raceways to roll in the raceways; and
a plurality of spherical bearing rollers as rolling elements also disposed between the rings and rollable around the raceways, the rollers having a widest
10 diameter;
a bearing cage disposed between the rings, and the rolling elements being guided along the raceways in the cage;
the bearing balls being larger in diameter than the widest diameter of the spherical rollers for enabling the balls to exclusively take up the entire rolling bearing
15 load on the bearing when the bearing load is small.
2. The radial self-aligning rolling bearing of claim 1, wherein the balls and the spherical rollers are alternatively arranged in the circumferential direction around the raceways.
3. The radial self-aligning rolling bearing of claim 2, wherein each ball alternates with rollers on both sides and each roller alternates with balls on both sides in the circumferential direction.

4. The radial self-aligning rolling bearing of claim 1, wherein the balls and rollers are so sized and the balls and the raceways are so comprised that under relatively high load, both the balls and the rollers take up the rolling bearing load.

5. The radial self-aligning rolling bearing of claim 1, wherein the bearing has two rows of the rolling elements, and a respective outer raceway and a respective inner raceway on the outer and inner rings, respectively, for each of the rows of balls and rollers as rolling elements.

6. The radial self-aligning rolling bearing of claim 5, further comprising a single common cage for the rolling elements in each of the raceways.

7. The radial self-aligning rolling bearing of claim 1, wherein the diameter of the ball is between 0.01 percent and 0.4 percent larger than the diameter of the roller.